



WIRE AND CABLE

Testing and Certification: Flammability Testing Services

Determine compliance with large-scale flammability performance testing

Backed by 120 years of expertise in delivering world-class fire testing and certification, UL is the leading resource for fire safety technologies. Our comprehensive services for wire and cable products include both flammability and physical performance testing for UL Certification, as well as for domestic, international and other industry standards requirements.

Certain wire and cable products must meet large-scale flammability performance criteria in order to be accepted by authorities having jurisdiction (AHJs).

UL's wire and cable flammability testing program includes:

Plenum Applications

- **NFPA 262** – Standard method of test for flame travel and smoke of wires and cables for use in air-handling spaces

Riser Applications

- **UL 1666** – Test for flame propagation height of electrical and optical-fiber cables installed vertically in shafts

Vertical Tray Applications

- **UL 1685** – Vertical-tray fire propagation and smoke-release, test for electrical and optical-fiber cables
- **CSA FT4** – Cables in cable trays
- **IEEE 383** – Standard for qualifying Class 1E electric cables and field splices for nuclear power generating stations
- **IEEE 1202** – Standard for flame testing of cables for use in cable trays in industrial and commercial occupancies
- **JIS C 3521** – Flame test method for flame-retardant sheath of telecommunication cables
- **Limited smoke**

As an example of its unparalleled expertise, UL collaborated with regulatory authorities to develop many of the flammability test methods for wire and cable products. UL Listed wire and cable products appear in the UL Product Directory, which is referenced by more than 2,500 AHJs and code officials annually.



For more information visit ul.com/wirequote



Helping you attain global acceptance

UL helps wire and cable manufacturers achieve global acceptance for their products by conducting flammability testing in accordance with many international test protocols, including:

- **IEC 61034-1** – Measurement of smoke density for cables burning under defined conditions – Part 1: Test apparatus
- **IEC 61034-2** – Measurement of smoke density for cables burning under defined conditions – Part 2: Test procedure and requirements
- **IEC 60754-1** – Test for gases evolved during combustion of materials from cables – Part 1: Determination of the amount of halogen acid gas
- **IEC 60754-2** – Test for gases evolved during combustion of materials from cables – Part 2: Determination of acidity (by pH measurement) and conductivity
- **IEC 60332-1-2** – Tests for electric and optical fiber cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable procedure for 1 kW pre-mixed flame
- **IEC 60332-1-3** – Tests on electric and optical fiber cables under fire conditions – Part 1-3: Test for vertical flame propagation of a single insulated wire or cable Procedure for determination of flaming droplets/particles
- **IEC 60332-2-2** – Tests on electric and optical fiber cables under fire conditions – Part 2-2: Test for vertical flame propagation of a single small insulated wire or cable procedure for diffusion flame
- **IEC 60332-3-10** – Tests on electric and optical fiber cables under fire conditions – Part 3-10: Test for vertical flame spread of vertically-mounted bunched wires or cables – Apparatus
- **IEC 60332-3-22** – Tests on electric and optical fibre cables under fire conditions - Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category A
- **IEC 60332-3-23** – Tests on electric and optical fibre cables under fire conditions - Part 3-23: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category B
- **IEC 60332-3-24** – Tests on electric and optical fibre cables under fire conditions - Part 3-24: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C
- **IEC 60332-3-25** – Tests on electric and optical fibre cables under fire conditions - Part 3-25: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category D

Additional services

Cone calorimeter testing for wire and cable manufacturers: This small-scale testing apparatus provides a cost-effective means to help predict real world risk for fire. As a tool to gauge large-scale wire and cable flammability performance in accordance with NFPA 262, the cone calorimeter test can save on time and costs associated with full product testing.

The value of UL

UL's Follow-Up Services provide the trusted confidence manufacturers, installers and AHJs seek by performing on-site inspections to verify ongoing compliance of wire and cable products.

The Mark that Counts

Building code inspectors, distributors, installers and consumers look for the UL Mark to verify that installed cable meets the applicable requirements. To prevent unauthorized use of the UL Mark on noncompliant products, UL Certified, flame tested cables are eligible to bear secure gold hologram labels. These protected marks distinguish products that have met one of the most demanding certification and follow-up programs to protect the manufacturers and distributors and provide peace of mind to consumers.

To learn more about these labels, please visit UL.com/hologram

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